ER-2 Flight Summary

Mission: Mission 3
Flight Scientists: S. Platnick, P. Newman

Sortie: 02-948
Date: Wednesday, 9 July 2002
Pilot: K. Broda

Takeoff: 1117 EDT (1517 UTC)
Landing: 1817 EDT (2217 UTC)
Duration: 6:00

Objectives:

Fly south into the tropics to observe clear sky, thin cirrus, and anvils. The flight track allows for an underflight of Terra on a southward track, and Aqua views on the northward legs.

The ER-2 headed out to the western side of Cuban airspace, then headed southwest through the Yucatan Channel along the ground track of the Terra overpass for a 25 minute leg (FIR waypoints Medux to Aniko), then turned southwest before turning on a more southerly track to 10 41.0 N, 80 37.0 W (off the coast of the Nicaragua-Costa Rico border). The ER-2 then reversed course, flying northward along the same track.

Satellite or fixed coordination:

Satellites (relative to ER-2 track):

Terra – 1629 UTC, VZA to ER-2 track = 0 deg
Aqua – 1934 UTC, VZA to ER-2 track ≈ 51 deg (MODIS and AIRS views), ER-2 in the region of the Yucatan Channel at about 21.5 N.

No overpasses of ground sites.

Aircraft coordination:

Nominal take off times (UTC): WB-57 (1530), Proteus (1430). No coordination with Citation, Twin Otter, or P-3.

WB-57: Flew along in coordination with the ER-2 the entire flight, typically staying within several miles of the ER-2. Penetrated thin cirrus on return flight (~1845 UTC) as well as thick cirrus shields.

Proteus: Flew along ER-2 track as far as the Terra overpass track.

Summary/highlights:

• ER-2 pilot reported nominal clear skies or low-level cumulus north of about 19 N, and undercast skies to the south.

• Excellent coordination with WB-57 throughout the flight, with Proteus through the Terra overpass.

• MAS image of WB-57 with contrail underneath ER-2 at 1746 UTC.

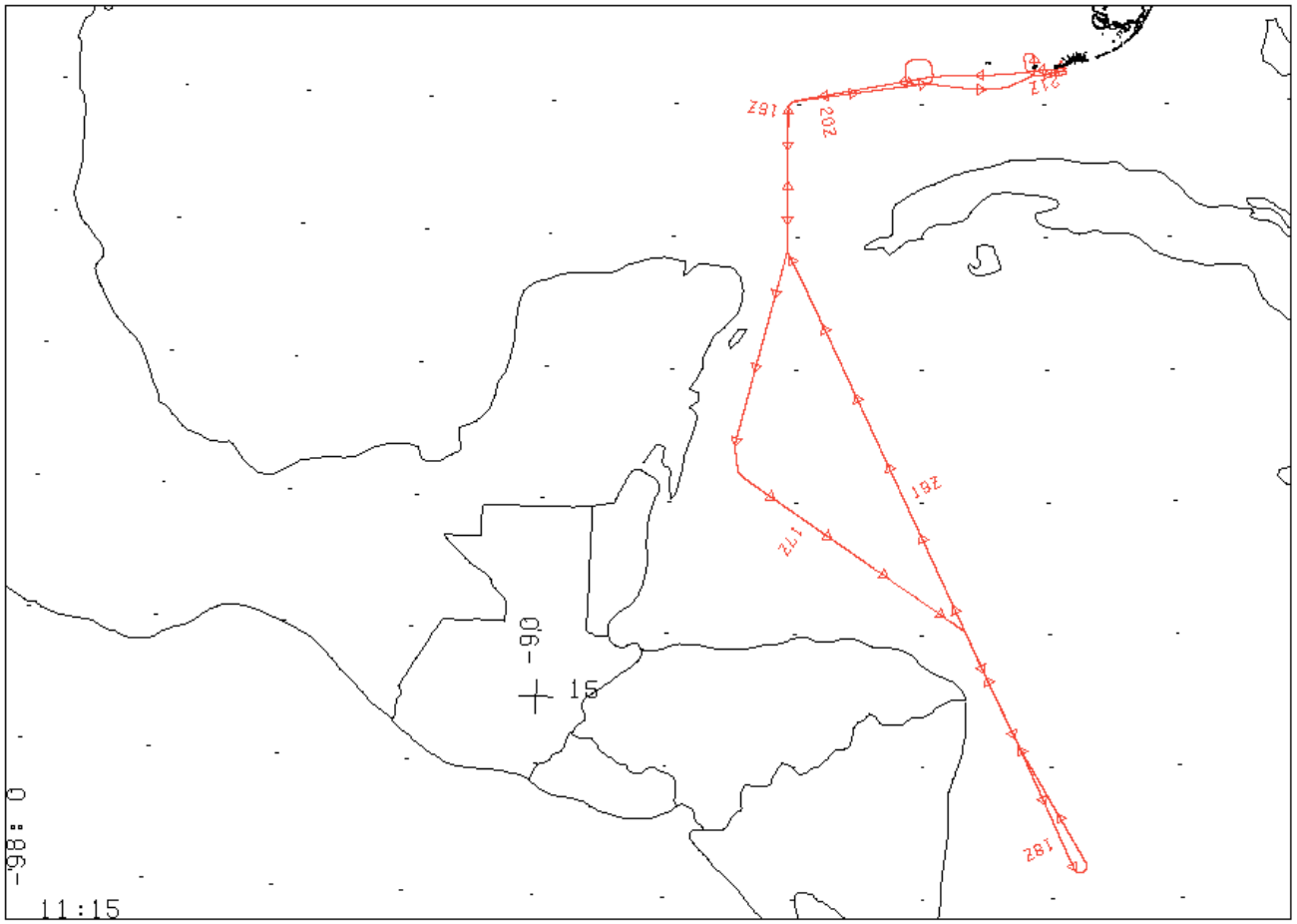
• Dropsondes: 6 of 6 collected data

#1: 1601 UTC
#2: 1643 UTC
#3: 1742 UTC
#4: 1809 UTC
#5: 1830 UTC
#6: 1953 UTC

ER-2 science instrument payload and status:

Instrument	Status	Notes
CoSSIR Conical Scanning Sub-mm wave Imaging Radiometer	F	Failure early in flight
CPL Cloud Physics Lidar	G	
CRS Cloud Radar System	G	
EDOP ER-2 Doppler Radar	G	
JLH JPL Laser Hygrometer	–	Not operated during flight
MAS MODIS Airborne Simulator	G	
MMS Meteor. Meas. System	G	
MTP Microwave Temperature Profiler	G	
RAMS Radiation Meas. System	G	
SSFR Solar Spectral Flux Radiometer	G	
Dropsonde	G	Data acquired from all sondes

G = good; P = partial data collected; F = failure, no data



FLIGHT 02-948 9 JULY 2002 A/C 809 CRYSTAL/FACE
LAMBERT CONFORMAL PROJECTION: SP1 = 10.3 SP2 = 22.7 CM = -84.2 ROTATED BY 0.0
15:15:00 TO 21:10:00 UT SCALE 1:8.87E+06 TIME TICK EVERY 10.00 MINUTES